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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/622,278      | 09/20/2000  | Matthias Hartrumpf   | 31583-165338        | 8745             |

7540

01/25/2002

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EXAMINER

SOHN, SEUNG C

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 01/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/622 278

Applicant(s)

HARTRUMPF, MATTHIAS

Examiner

Seung C. Sohn

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION

- Extensions of time may be available under the provisions of 37 CFR 1.136(a) in no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b)

## Status

- 1) ☐ Responsive to communication(s) filed on 20 October 2000
- 2a) ☐ This action is FINAL 2b) ☒ This action is non-final
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213

## Disposition of Claims

- 4) ☐ Claim(s) 14-37 is/are pending in the application
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed
- 6) ☐ Claim(s) 14-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement

## Application Papers

- 9) ☐ The specification is objected to by the Examiner
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f)
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1 ☒ Certified copies of the priority documents have been received
- 2 ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
- 3 ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a))
- \* See the attached detailed Office action for a list of the certified copies not received
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
- a) ☐ The translation of the foreign language provisional application has been received
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s): 8

- 4) ☐ Interview Summary (PTO-413) Paper No(s): \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

2. Fig. 1 should be designated by a legend such as --Prior Art-- instead of "State of the Art" because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The words "Drawings" on Fig. 1 and "Invention" on Fig. 2 should be removed. Appropriate correction is required.
4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show Figs. 11(a) and 11(b) as described in the specification (page 10, lines 6-8). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
5. The drawings are objected to because block diagrams in Figs. 2 and 5 should be labeled. Correction is required.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a grid, a polarizing beam splitter, a Wollaston prism, a retarding plate of a Glan-Thomson prism, filters, and a position-resolving photo diode must be shown or the features canceled from the claims 20, 22, 24, 25, 29, 35 and 37. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

7. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

8. This application does not contain a Brief description of the Several Views of the Drawings of the disclosure as required by 37 CFR 1.74. A Brief description of the Several Views of the Drawings is required.

9. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

The following order or arrangement is preferred in framing the specification and, except for the reference to the drawings, each of the lettered items should appear in upper case, without underling or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) Title of the Invention.
- (b) Cross-Reference to Related Applications.
- (c) Statement Regarding Federally Sponsored Research or Development.

- (d) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on compact disc (see 37 CFR 1.52(e)(5)).
- (e) Background of the Invention.
  - 1. Field of the Invention.
  - 2. Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.
- (i) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing, if on paper (see 37 CFR 1.821-1.825).

10. The specification is objected to because there is no description of Figs. 8-10.

Moreover, it should be noted that the specification does not refer each reference number in corresponding to each figure. Appropriate correction is required.

11. The disclosure is objected to because of the following informalities:

On page 1, line 7, "used multiply" does not make sense.

On page 1, line 7, --, -- should be inserted between "sides" and "telecentric".

On page 5, line 10, "re" should be changed to -- are --.

On page 6, line 2, the second "or" should be removed.

On page 8, line 25, one of two "for each"s should be removed.

Appropriate correction is required.

12. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: a grid, a polarizing beam splitter, a Wollaston prism, a retarding plate of a Glan-Thomson prism, filters, and a position-resolving photo diode

must be disclosed in the specification or the features canceled from the claims 20, 22, 24, 25, 29, 35 and 37.

### ***Claim Objections***

13. **Claim 14** is objected to because of the following informalities:  
On line 6, -- a beam splitter -- or the like should be inserted between "system;" and "ahead". Appropriate correction is required.
14. **Claim 18** is objected to because of the following informalities:  
On line 2, "are" should be removed. Appropriate correction is required.
15. **Claims 20, 22, 24, 26, 35 and 37** are objected to because of the following informalities: "scanning" in line 1 should be changed to --scanner--.  
Appropriate correction is required.
16. **Claim 28** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. **Claims 14-37 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Referring to claim 14**, "ahead of said dark field stop for splitting" on lines 7-8 cannot be understood. "a photo diode in said partial beam, said photo diode being disposed approximately in the focal point of said optical receiver system." on lines 8-10 cannot be understood as to which figure shows such embodiment. Isn't a photo diode a part of the photo detector recited on line 3? Moreover, claims 14 and 29 recite "A laser scanner measuring system" on line 1. However, the bodies of claims do not recite any scanner measuring system. What is being measured?

**Referring to claims 17 and 32**, "a beam-emerging site" on line 3 cannot be understood.

**Referring to claims 18 and 33**, "one or several receiver units" on lines 1-2 is vague and indefinite as to how the element is related to "a receiver unit" recited in claim 14, line 3. "the optical axis of the scanner unit" on line 3 lacks antecedent basis.

**Referring to claim 23**, "the illuminating beam path and/or the receiver beam path" on line 2 lacks antecedent basis (which figure shows such embodiment?).

**Referring to claim 24**, the claim is vague and indefinite since it is not clear whether the optical elements consist of all three elements or just any one of them.

**Referring to claim 25**, it is not clear as how the filters are operatively associated with other elements recited in claim 14 (which figure shows such embodiment?).

Referring to claim 27, "the combined scanner/receiver unit" on line 2 lacks antecedent basis. There is no structural relationship among elements in claims 14 and 27.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**18. *Claims 14-15 and 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Marxer et al. (US Patent No. 6,271,916) in so far as understood.***



**Referring to claims 14-15**, Marxer et al. discloses in Figs. 4 and 7 the following elements of applicant's claim:

a) an emitter unit having a laser (20), a beam deflector unit (22 or 1022) and an optical emitter system which define a scanning beam path as well as a scanning plane (Col. 9, lines 40-42);

b) a receiver unit including a photo detector (7 or 1044) disposed in the focal plane (26, i.e., image) of an optical receiver system for a receiver beam path, wherein the surface normal of said optical receiver system is parallel with the scanning beam path;

c) a dark field stop (41) disposed ahead of said photo detector (7 or 1044) in the receiver beam path in the focal plane of said optical receiver system (Col. 9, lines 45-49 and Col. 11, lines 29-32);

d) ahead of said dark field stop for splitting (1034) a partial beam from the receiver beam path (Col. 12, line 67 – Col. 13, line 8); and

e) a photo diode (1042) in said partial beam, said photo diode being disposed approximately in the focal point of said optical receiver system (Col. 12, lines 38-39).

**Referring to claims 19-20**, Marxer et al. discloses in Fig. 7 an optical system (1036 and 1042) arranged in the scanner beam path for splitting the scanning beam in the direction orthogonal on the scanning direction and a grid having lines oriented orthogonally with respect to the scanning direction.

**Referring to claims 21-22**, Marxer et al. discloses in Fig. 7 an optical system (1040 and 1044) arranged in the scanner beam path for splitting the scanning beam in the direction parallel with the scanning direction and a grid having lines oriented parallel with respect to the scanning direction.

**Referring to claim 23**, Marxer et al. discloses in Fig. 7 optical elements (1016) disposed in the illuminating beam path and/or the receiver beam path for radiation of different polarization.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

**19. Claims 16-18 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marxer et al. (US Patent No. 6,271,916) in view of Musto et al. (US Patent No. 4,432,648).**

**Referring to claims 16-18**, Marxer et al. discloses as above, but does not disclose a retro reflector unit arranged behind the object to be measured. Musto et al. shows in Fig. 1 retro reflectors (28, 53 and 54) (Col. 3, lines 16-24 and Col. 4, lines 32-35). Therefore, it would have been obvious to a person having ordinary skill in the art to provide a retro reflector unit of Musto et al. in the device of Marxer et al. since the use of

a retro reflector unit is a common structural provision taken by those skilled in the art for performing the specific types of measuring operations as taught by Musto et al.

**Referring to claims 25 and 27**, providing optical filters and a combined scanner/receiver unit are considered as obvious modification since such design technique is well known in the art as shown by Mutso et al. (Col. 3, lines 43-49 and Col. 4, lines 3-17).

**Referring to claim 26**, Marxer et al. discloses as above, but is silent as to whether the filters are interference filters, color filters or cut-off filters. It would have been obvious to a person having ordinary skill in the art to provide one of those filters in the device of Marxer et al. since the use of those well known filters is a common structural provision taken by those skilled in the art for improving the efficiency of the system.

**20. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marxer et al. (US Patent No. 6,271,916).**

Marxer et al. discloses as above, but is silent as to whether the optical elements are a polarizing beam splitter, a Wollaston prism, a retarding plate or a Glan-Thomson prism. It would have been obvious to a person having ordinary skill in the art to provide those optical elements in the device of Marxer et al. since the use of those well known optical elements is a common structural provision taken by those skilled in the art for improving the efficiency of the system.

**21. Claims 29-30 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marxer et al. (US Patent No. 6,271,916) in view of Kleinknecht et al. (US Patent No. 4,408,884).**

Marxer et al. discloses as above, but does not disclose that the photo detector is a photo diode array or a position-resolving photo diode. Kleinknecht et al. shows in Fig. 2 an array of detectors (30-35) disposed along the direction of different diffraction orders (Col. 4, lines 1-5). Therefore, it would have been obvious to a person having ordinary skill in the art to provide an array of detectors of Kleinknecht et al. in the device of Marxer et al. since it is common in the measurement of diffused light to arrange several receivers at different angles in the scattering plane as taught by Kleinknecht et al.

**22. Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marxer et al. (US Patent No. 6,271,916) in view of Kleinknecht et al. (US Patent No. 4,408,884) and Musto et al. (US Patent No. 4,432,648).**

Marxer et al. in view of Kleinknecht et al discloses as above, but does not disclose a retro reflector unit arranged behind the object to be measured. Musto et al. shows in Fig. 1 retro reflectors (28, 53 and 54) (Col. 3, lines 16-24 and Col. 4, lines 32-35). Therefore, it would have been obvious to a person having ordinary skill in the art to provide a retro reflector unit of Musto et al. in the device of Marxer et al. in view of Kleinknecht et al. since the use of a retro reflector unit is a common structural provision taken by those skilled in the art for performing the specific types of measuring operations as taught by Musto et al.

**Conclusion**

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Marlin et al. (US Patent No. 5,377,002)** discloses that a dark-field stop assembly with an adjustable dark-field deflection system is placed in the optical path between the lens system and the objective.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (703) 308-4093. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham can be reached on (703) 308-4090. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SCS

SCS  
January 17, 2002

  
SEUNGSOOK HAM  
PATENT EXAMINER  
REG 2800